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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,213	05/03/2001	Mauri Salmisuo	MED 2 1233	2635

7590 08/12/2002
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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 08/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

A 25

Office Action Summary	Application No.	Applicant(s)	
	09/831,213	SALMISUO, MAURI	
	Examiner	Art Unit	
	Virginia Manoharan	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> | 6) <input type="checkbox"/> Other: _____ |

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors e.g. typographical, grammar, idiomatic, syntax and etc. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The term "characterized" is not a recitation of positive, manipulative method steps nor is it a recitation of positive, structural elements of an apparatus. See claims 1-5.

b. The following claimed languages fail to ascertain the claimed invention with precision.

1. "essentially atmospheric gases recitation claim 1" and
2. "hit pattern", claim 2. (Underlinings supplied).

c. The following claimed languages lack proper antecedent basis in the claims:

1. "the heated feed-water", claim 2;
2. "the upper end (4) of the evaporator channel arrangement, claim 2,
and
3. "...the evaporator tube arrangement" claims 4 and 5.

d. The limitation recited prior the "characterized" in claim 2 is not understood. The claims should be amended to a Jepson-type format (if intended) in accordance with rule 1.75(e) to delineate that which is considered to be an improvement in the art.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2, 4 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over El-Allawy or Blangetti et al '998.

Either El-Allawy or Blangetti et al is deemed to anticipates or renders obvious the claimed method of feeding water to the heat transfer surfaces of an evaporator having a vertical evaporation channels, by distributing the water as a spray of drops to heat transfer surfaces such that dissolved gases are separated from the water as broadly claimed in claim 1; and the apparatus for removing dissolved gases from water to be evaporated in connection with a falling film evaporator, which apparatus comprises vertical evaporating channels and at least one spraying device for breaking the heated feed-water into a spray of droplets into an evaporator channel arrangement, and at least

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one outlet for the removal of gases separating from the droplets as broadly claimed in claim 2.

See the respective Fig. 1.

Claims 3, 5-7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohmann et al or Ryham.

The means and method of collecting the sprayed droplets above the upper ends of the vertical evaporation tubes comprising e.g. of trough having a perforated bottom and lying above said tubes or channel arrangement are obvious expediciencies in the art as taught e.g. by Hohmann et al or Ryham.

Note e.g., col. 4, lines 65-67 of Hohmann and the plates (15) and (31) of Ryham.

To incorporate the means and method of Hohmann and Ryham to the means and method of El-Allawy or Blangetti would have been obvious to one of ordinary skill in the art in view of the suggestion provided at col. 3, lines 16-26 of Hohmann, i.e., so as to distribute as uniformly as possible to the inlets of the tubes the material being sprayed downwardly. See also Ryham's suggestion at col. 2, lines 49-58. Furthermore, all the references are directed to the same processing environment i.e., to a method of spraying through a film-type evaporator apparatus.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Hayashi et al discloses a method and apparatus for separating dissolved gases from raw water.

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b. Lehman discloses a transport member comprising upwardly open conduct in the form of a trough and a spray device.

c. Ramm-Schmidt et al, Koistinen et al and Kessler et al all disclose a liquid distributor used for evaporators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (703) 308-3844. The examiner can normally be reached on Tuesday--Friday from 7:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mrs. Marian Knode can be reached on (703) 308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9311 for regular communications and (703) 308-0651 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

V. Manoharan/dh
August 12, 2002

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